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ABSTRACT

An Information System for Vocational Decisions (ISVD) is described and discussed. The system is intended to accommodate, in potential, the vocational needs of users extending from kindergarten to retirement. With ISVD, occupational facts/data can be converted into vocational information by means of personal inquiry which is at least initially conducted under supervision of a professional counselor. Two major goals of ISVD subsume much of what is elaborated throughout the paper: (1) to bring a person to a condition of readiness and confidence at each of the several discontinuities of vocational development; and (2) to permit the accumulation of data about vocational decision-making, as experienced and undertaken by the individual. The author recapitulates the line of thinking which has led him to his current beliefs about vocational development. For the rest, he discusses the organization and functional intention of ISVD, its machine routines, and some of its materials. Finally, he considers the existence of ISVD in relation to problems of vocational readiness and placement of college students. (TL)

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INFORMATION SYSTEM FOR VOCATIONAL DECISIONS

Project Report No. 1

THE ORGANIZATION AND INTENTION OF A PROPOSED DATA AND EDUCATIONAL SYSTEM FOR VOCATIONAL DECISION-MAKING*

David V. Tiedeman

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THE ORGANIZATION AND INTENTION OF A PROPOSED DATA AND EDUCATIONAL SYSTEM FOR VOCATIONAL DECISION-MAKING

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Job Placement from College within an Information System for Vocational Decisions

The Information System for Vocational Decisions which I describe and discuss in this paper is to accommodate, in potential, the vocational needs of users extending from the kindergarten to retirement. The System is to be designed and staffed so that, with appropriate use throughout life, occupational facts and/or data (hereafter, facts/data) can be converted into vocational information by means of personal inquiry which is at least initially conducted under supervision of a professional counselor. Job placement upon leaving college, one-half of the interest among Conferees, thus becomes a specific, but intermediate, part of the Information System for Vocational Decisions, the other half of the interest among Conferees.

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I am heavily indebted both to Mrs. Eileen Morley, Research Assistant, Center for Research in Careers, for criticism and revision of an earlier draft of this paper and to Professor Warren D. Gribbons, Regis College, for a summer seminar on an Information System for Vocational Decisions.

The primary goal of this proposed System is to bring a person to a condition of readiness and confidence at each of the several discontinuities of vocational development: readiness insofar as an individual may develop a plan in relation to which action is possible; confidence sufficient that action may be initiated. The secondary goal of this proposed System is to permit the accumulation of data about vocational decision-making, as it is experienced and undertaken by the individual.

These goals, stated briefly at the outset for the sake of clarity, subsume a number of propositions which are elaborated in the sections which follow. These are:

1. a recapitulation of the line of thought which has led me from consideration of self-concept to personal determination in career development;
2. an account of the organization and functional intention of the proposed Information System;
3. specification of the machine routines required by such a System;
4. an outline of some of the materials and forms of presentation necessary at the several age levels so far planned for the System; and
5. consideration of the existence of such an information system in relation to problems of vocational readiness and placement of college graduates.

The fact that problems associated with the placement of college

students form a major sector of the repertoire of such a System causes me to presume upon your time with this paper.

However, I have an additional reason for sharing it with the Advisory Committees and friends of the Center for Research in Careers. Approximately four years ago, Donald Super was kind enough to join Henry Borow, Jean Jordaan, Robert O'Hara, Ted Volsky and me in preparing a set of monographs under commission from the College Entrance Examination Board. In the course of discussions in what turned into a seminar, I became fascinated by the possibility of delineating personal determination of career within Super's concept of vocational development. That possibility has directed my thought since publication of my monograph with O'Hara (Tiedeman and O'Hara, 1963). I attempt to draw these threads together here because they underlie my proposal for an Information System for Vocational Decisions. The Information System will, in turn, and if supported, constitute the next major phase of my effort to provide a system of thought within which it is possible to comprehend somewhat more, the theory, processes and data of self-determination in career development.

From Self Concept to Personal Determination in Career Development

Super's 1963 Statement of Self-Concept Theory. Professor Super assumed responsibility during our College Board seminar for drawing together research on self concept and for reformulating his theory on the self concept in vocational development. The results of that

work appear in the monograph Career Development: Self-Concept Theory (Super, Starishevsky, Matlin, and Jordaan, 1963).

Super's discussions and essays growing from the seminar took three essential directions:

1. the placing of self concepts into a theory of vocational development;
2. the provision of more operational statements of the development of self concepts; and
3. the specification of the tasks of vocational development encountered in adolescence and young adulthood.

In addition, Super supervised the preparation by Reuben Starishevsky and Norman Matlin of an essay on the translation of self concepts into vocational terms. Super also stimulated his colleague, Jean Pierre Jordaan, to provide an essay on exploratory behavior. In this essay Jordaan was interested in the origination of self and occupational concepts.

Robert O'Hara and I were privileged to meet regularly with Super and his group in the process of framing the essays which I have just noted. O'Hara and I were engaged in:

1) expanding our understanding of a chosen alternative into an understanding of a process of choosing; and
2) relating the development of the process of choosing in vocational life to Erikson's (1959) psycho-social process of identity formation.

Jordaan, O'Hara, Super and I were further privileged to have Henry Borow and Ted Volsky, who were both then at the University of

Minnesota (Volsky has since moved to University of Colorado), as participating members of the College Board seminar. In reflecting, under criticism, upon the ideas of Jordaan and Super and those of O'Hara and me it came clear to me that Super was engaged in advancing his thought by:

1. expanding Wylie's (1961) review of self concept theory by incorporating vocational choice as an additional means of self differentiation, an omission in Wylie's thought;
2. incorporating self concepts (note the plural form) as a primary term of self differentiation in contrast to his previous emphasis on self concept alone;
3. construing the union of self and vocation essentially as a translation; and
4. attributing motivation for the translation in 3) largely to external events known as "tasks of vocational development."

In contrast, Erikson (1959) analyzes the development of ego-identity in relation to modification in awareness of one's psychosocial position. Erikson's concept of "position" is at once social ("what they want me to be," so to speak) and personal (something in the individual's core). Thus, the ego development which Erikson sketches involves the incorporation of social roles into the ego through the mechanisms of the self, among other mechanisms. However, Erikson's ego development also involves the effect <u>on</u> social roles of psychological development should personal responsibility become operative.

O'Hara and I attempted to bring Erikson's conception of ego-development into Super's conception of self concept in vocational development. Our principle mechanism for the attempted union was the logic of decision-making. Decision-making was proposed as central in the more comprehensive mechanisms of differentiation and integration. Finally, decisions of vocational development were particularly construed as prime opportunity for the differentiation and integration of ego identity. Such differentiation and integration in turn develops the potential of decision in personal development.

Our effort to place decision in the center of the development of identity through vocation brought me to realization that I must then analyze the process of career development in terms of the potential growth in awareness of one's responsibility for vocational behavior. My habits as a former statistician make this realization difficult. Experiments in psychology do not ordinarily involve the subject as an agent in processing the seeming data from the experiment. Thought as a mechanism in behavior is therefore usually unanalyzed in psychology particularly in relation to the effect under specific investigation. Professor Super's thought during 1962-1963 was also bound by this restriction. This is why he, with Starishevsky and Matlin, attempted to invoke the formal concept of "translation" in seeking to operationalize the union of self and vocation. Furthermore, this is why "developmental tasks" becomes a prime term in his system of vocational development because initiation of development is kept external in the behavioral mode of analysis. Crites (1964) accepts similar limitation

on his conception of vocational maturity.

Beginning with the College Board seminar, I have given serious consideration to the possibility that I can make science-like propositions about the actions of people when the data on which I base those science-like propositions are also provided for the person to whom I believe they apply. I thereby focus my interest on the process of knowing as has Bruner (1962). It is this belief which underlies my attempt to provide a prototype Information System for Vocational Decisions. In the presence of the Information System it is possible to analyze the non-appearance of the turning of facts/data into information. In the absence of the System it is not so possible. I intend to offer further statement of this belief. However, before doing so, I need delineation of three prior understandings which underlie my present belief.

The Ideal in the Self Concept. Prior to the College Board seminar I preferred to construe vocational behavior as primarily stemming from conceptions of self. In maintaining this preference, I frequently exasperated my collaborator, Robert O'Hara. However, my interest did lead me under O'Hara's guidance to comprehend the potential effect of personal impression upon a pattern of action.

I have noted that the College Board seminar, with its concomitant responsibility for an essay with O'Hara caused me to realize that I was avoiding consideration of a primary question in vocational development, namely, what is the origin of conceptions of self, the question which Roe and Siegelman (1964) ask in terms of the origin of interests. O'Hara and a then current student, Chris Kehas, brought

the conception of "idealness" into my attention and the conception of "idealness" in turn became a bridge to my giving responsibility for personal determination a central position in my thought about career development. I therefore here next examine the bridge of "idealness."

Kehas first developed a critical review of the self concept (1962). His review notes the streams of research which have on the one hand dealt with stated conceptions of self and on the other with discrepancies between these conceptions and those which are considered to be ideal. It is the presumed need for consistency in actual and ideal conceptions of self which has directed the therapeutic interest in the self concept. It is conceptions of self which have influenced vocational study of self concept because of the need in vocational choice theory to attribute direction to interest and assessment of personal circumstance. Kehas clearly distinguished these two uses of self concept in his dissertation (1964) and successfully used the distinction in relating both self concept and conceptions of self to school achievement relative to expected level of attainment.

Purposeful Action and Career Development. Kehas joined Field and me (Field, Tiedeman, and Kehas, 1963) in proposing the incorporation of the concept of idealness into the problem of explaining the emergence of vocation in the self concept. The idealness concept provides a primary term within which it is then logically possible to construe the potential for direction in vocational behavior. However, the concept of idealness in turn offers two difficulties

in theory, namely:

1) the source of the ideal may be construed as only external to the person and hence lead to illogical and sometimes even inflammatory considerations of both presence and time; and
2) the ideal logically bears no necessary connection with actual events because the person must himself forge a connection if the ideal is to guide action.

Kehas, Field, and I are in accord as to the advantage which incorporation of the concept of idealness holds for development of theory in career development. Kehas elected to study the conception itself in his dissertation. Field elected to make further analyses of the problems of presence and connection in his dissertation. Field's thought gave rise to his concept of purposeful action (Field, 1962 and 1964). In purposeful action, existence of a desired future state and of an awareness of a present state are both postulated. Furthermore, knowledge of a discrepancy between the desired and actual states is presumed to exist. Under such conditions it then becomes possible:

1) to think of ends and means;
2) to derive goals;
3) to plan;
4) to undertake activity under guidance of the plan which is designed to reduce the known discrepancy; and
5) to experiment with the use of means under guidance of plan until the end is accomplished or until realization begins to appear that ends and the whole structure of purpose must be shifted.

Purposing through Education. Purposeful action in no sense either determines completely from the outside the advisability of pursuing one end or another or guarantees the achievement of a desired end. Field deliberately defines purposeful action so that goal determination and risk are left as matters of both individual choice and intelligence. It has been for these reasons that I have given very serious consideration to using purposeful action as the goal of Guidance as organized within an educational frame (Tiedeman and Field, 1962; Tiedeman, 1964). Purposeful action permits the guidance practitioner to focus directly upon two professional problems, namely:

1) the exercise of individual choice; and

2) the exercise of intelligence in action.

Obviously I use the term "intelligence" in a wider sense from scholastic aptitude test scores. In fact I intend the term to connote the exercise of thought and judgment in bringing act and intention into relation so that accomplishments of credibility (as judged by others) are achieved.

The concept of purposeful action is by definition a static concept. It is analyzed in relation to a single choice situation. Concepts of plan and feedback within the general conception are themselves fluid or processional. However, the primary term is only understood in terms of a specific choice. Field and I have come to realization of this inherent limitation of our original proposition (1962). I have myself attempted to subsume this limit into a larger conception of more general power. I do so by thinking of purposeful action as

being but a paradigm applicable in many circumstances. That over-arching paradigm essentially places the sub-paradigm of purposeful action into the frame of time. Purposing, not purposes, then becomes the essential conception (Tiedeman, 1964).

I elect to conceive "purposing" in relation to an educational frame. I do so because that is where I believe that Guidance should be practiced. I do not limit meaning of "educational frame" to schools and colleges. However, I do limit meaning of the term to an institutionalized form of encouraging persons to become thoughtful about their action. By this means I seek societal sanction for the ethic I urge upon those I serve. Furthermore, I accept limit on my pursuit of that ethic. If society does not support me, I am with idea but without power.

The conception of "purposing" permits me to imagine opportunities throughout the school day and life in which invocation of the paradigm of purposeful action is possible. In relation to such possibilities the processes of purposeful action can be seen as potentially available to adult and student attention rather frequently. Furthermore, there is no reason for vocation to be the sole context in which such processes are brought into attention. Decisions of relationship in family, neighborhood, recreation, school subjects and life plans are all analyzable in the terms of this single conception. However, by attending to the process of, and skill in, deriving purpose throughout educational activity, it becomes possible to conceive of a developed sense of having purposed and of being responsible for what is happening to one. It is not that I want people to have purposes

continuously. I merely want people:

1) to be capable because of education of having purpose when desired; and

2) to recognize that the analysis of personal activity in relation to the paradigm of purposeful action provides each of us with powerful means of understanding ourselves.

I care not, except as an educator, that people are rational. However, I do care as a Guidance practitioner in education that each person come to recognize as best he then can that irrationality can only be conceived in relation with rationality. It is not possible to be irrational unless one has a conception of rationality with which action is being compared. This is the goal I seek by purposing as a Guidance practitioner through education.

The Information System as a Means of Cultivating Vocational Purposing. I have so far indicated that my primary attention in understanding career development is presently given to incorporating the personal conception of idealness in the vocational self-concept, through application of the paradigm of purposeful action, with sufficient repetitiveness that mastery of the process of acting purposefully is achieved. This triplicity may be re-stated in the form of goals.

1) the incorporation of the personal conception of idealness in the vocational self-concept;

2) the use of the paradigm of purposeful action as a process model; and

3) the achievement of mastery over the process of acting purposefully, through repetitive practice.

The Information System is thus proposed as a means of achieving these goals by the provision of:

1) reality-based facts/data, in terms of which the individual may develop vocational self-concept (information) incorporating his own conception of idealness;
2) machine routines which permit the individual to participate in the System according to the paradigm; and
3) infinite opportunity for practice.

The Possibility for Science in Purposing through Education. I am also interested that vocational activity be a form of expression of purposeful action. Prior to the above excursion I had proposed that it is possible to frame science-like propositions with regard to the incorporation of facts/data by persons sharing many of the facts/data which behavioral scientists ordinarily exclude from consideration of their subjects. I return here to that assertion.

Field and I recently wrote of "Measurement for Guidance" (Tiedeman and Field, 1965). The preposition "for" is very deliberately placed in our title. Field and I wrote a statement which:

1) presents the ordinary paradigm of prediction through traits/factors (Tiedeman, 1956);
2) proposes that mastery of that paradigm be a responsibility not of the scientist alone but also of the person attempting to give direction to his life; and

3) explores the possibility of making science-like propositions about the process of incorporation which the person would use in turning the historical-type statements of behavioral science into information for himself in relation to growing knowledge of his intentional framework.

It is our belief that, if the scientist remains explicit about 1) and 2) above, he can accumulate records of the history of 3). These records can in turn provide data about which the scientist can then attempt to formulate explicit and reproducible statements about the phenomenon of a person involved in the incorporation of a process by which he can evolve and use a feeling of mastery over his vocational destinies. There rests my interest as a scientist in provision of a prototype for an Information System for Vocational Decisions. The System becomes the explicit representation of 1) and 2) above. Against this explicit frame it then becomes possible to encourage people to use the frame and to accumulate for their and my purposes a record of their thought as they attempt to turn facts/data into information at their several entries into interaction with the System.

As I engage in studies emanating from data of people using the prototype Information System, I will be laying out a part of the natural history of attaining vocational maturity within the times. In this regard I use the System and the ethic of purposing through education as necessary rudiments of my concept of "vocational maturity." Neither Super et al. (1963) nor Crites (1964) seem to include an ethic in their definitions of vocational maturity. I just have found no way to avoid doing so.

The Organization and Intention of a Proposed Information System for Vocational Decisions

Structure. The President and Fellows of Harvard College recently requested the U. S. Commissioner of Education to provide support under provisions of Section 4(c) of the Vocational Education Act of 1963 for the development and delivery of a prototype Information System for Vocational Decisions. I here attempt some indication of the breadth and depth of the proposed System by noting, through names and titles of its participants, the structure of its authority and skills. The request was forwarded by the Executive Committee of the intended System which is organized in the Graduate School of Education and consists of:

E. Gil Boyer, Administrator, New England Education Data Systems

Russell G. Davis, Lecturer on Education and Associate Director, Center for Studies in Education and Development

Allan B. Ellis, Assistant Professor of Education and Director of Basic Research and Formal Instruction, New England Education Data Systems

Wallace J. Fletcher, Associate in Education and Consultant in Technical, Vocational, and Adult Education for the Newton, Massachusetts School System

Edward Landy, Professor of Education and Assistant Superintendent of Pupil Personnel Services and Special Education, Newton, Massachusetts School System

Theodore R. Sizer, Dean, Graduate School of Education, ex officio.

I am chairman of this Executive Committee, and this permits collaboration between the System and the Center for Research in Careers.

The Executive Committee of the proposed Information System is to operate within policy formed by an Advisory Committee presently consisting of:

The members of the Executive Committee

Charles T. W. Curle, Professor of Education and Development and Director, Center for Studies in Education and Development

Herman Eschenbacher, Librarian, Graduate School of Education

Emmanuel G. Mesthene, Executive Director, University Program for Technology and Society

John P. Morine, Senior Supervisor, Occupational Information and Vocational Guidance, Division of Vocational Education, Department of Education, Commonwealth of Massachusetts

Norman Zachary, Director, Harvard Computing Center

In addition, in the event that the grant materializes, arrangements will be made, if possible, to have representation on the Advisory Committee from the College Entrance Examination Board; the Office of Placement, Wellesley College; and the Office of Manpower, Automation, and Training, U. S. Department of Labor. Representation from business and industry in New England as well as from WGBH, the educational television station in Greater Boston, is also considered desirable.

Function. The Information System for Vocational Decisions will be a computer-based system for the location and display of graded occupational facts/data. Display is to be by sound and sight with

pictures and/or words as the medium for presentation of facts to sight.

The occupational facts/data of the System are to be graded so that they will be appropriate at various times to users ranging from four years of age to retirement. In each of such stages, it will also prove necessary to provide occupational facts/data so that they are: 1) both general and of varying degrees of specificity as well as 2) accurate as of the moment but capable of some relationship to categories of new possibilities according to the costs of thought, time, effort, and resource which will need to be associated with possible product and work organizations of the future.

Ethic. Computer-based displays of occupational facts/data must be considered foundational to, not determining of, career. Otherwise, responsibility for life will be left with the System, not assumed by the user. This risk challenges the Information System for Vocational Decisions. As indicated in the following section and in Appendix A, every effort will be devoted to providing safeguards in the computer-based programs against interpretations of predictions as unmodifiable determinants of career. Nevertheless, the officers who will mediate use of the System, namely counselors and placement officers, will need special instruction with regard to their responsibility for seeing that persons given access to the System eventually emerge from their System interactions understanding that they alone bear ultimate responsibility for their vocational endeavors. When users place themselves into relation with facts/data so that

responsible actions of a vocational nature begin to develop in some measure, then will facts/data have been turned into information. This is the meaning of information which the System (computer routines and administrative officers) will be organized to promulgate, namely the transition of facts/data into information through development of the capacity to analyze and act upon intentions of vocational significance. Morley and I recently dubbed such a capacity "vocational competence" (Morley and Tiedeman, 1965).

Heuristics of the System. Our desire to emphasize individual responsibility for decision during interaction with the System places an important restraint upon the specifications of the System. Computer programs are to be merely heuristic, not determining. Although this distinction between heuristic and determinant may well prove hard to maintain, every effort will be made to develop programs which are only persuasively demonstrative, not logically compelling. Actually, healthy skepticism on the part of the user will be sufficient to maintain the distinction. However, it will be up to the professional judgment of the officers (counselors and placement officers alike) of the System to gauge both intrigue and skepticism so that personal benefit is gained from use but full responsibility for consequences is left with the user.

Preliminary analysis of the rudiments of decision-based action suggests that the routines of the System available for the context of relevance at particular times in vocational development must include:

1. heuristics leading, in potential, to an understanding of the processes of adjustment (Tiedeman and O'Hara, 1963, pp. 43-45); and
2. heuristics leading, in potential, to understanding of the processes of anticipation (Tiedeman and O'Hara, 1963, pp. 38-43).

In addition, the heuristics of anticipation must be focused so as to cultivate understanding of the sub-aspects of:

a. exploration;
b. the future, as seen through the speculations of another;
c. linkages of exploration and supposed possibilities of the future;
d. crystallization;
e. readiness for planning; and
f. readiness for clarification.

The preliminary specification of computer routines for the System (see Appendix B) brought the major problem of decision very much to the fore in my thought. Please reflect upon the above sequence and note that there are essentially only three basic modes which must be represented in heuristic form.

The first of the heuristic modes needed is that of adjustment. In this mode the orientation will be to the past. The restraints will come from decisions already taken. Understanding must come from relation of experience to anticipations of what was expected.

Within the heuristics of anticipations there are two needed

modalities. One of the two necessary modalities is that of exploration. In exploration, alternatives will not be available. Hence the machine routines must permit access at random when exploration is the dominant modality.

The second modality within the heuristic of anticipation will have to be that of examination. In many ways, examination will be like adjustment except that personal experience of direct relevance will not be available. In examination, fact, relationships, and complexity as understood by another can serve as a basis for construction of the routines because the alternative can be specified as the user enters this aspect of the System.

There are many gaps in my understanding of the operation of the System which my colleagues and I will have to bridge as the construction of the prototype progresses. However, at the present time the Executive Committee thinks that the fundamental problem of computer programs is manageable in the terms just described. If so, the System problems are essentially those:

1) of providing material appropriate for various levels of consideration;

2) of programming so that material can appear upon command according to the heuristics then considered desirable by the user; and

3) of programming so that the user can benefit from the construction and frequent analysis of the history of his vocational life.

This latter possibility will require the greatest ingenuity and represents my greatest professional challenge.

Goal of the System. I trust it is clear that the System will attempt to encourage an appreciation of the humanistic ethic. The major goal of the System will be to create a developed and potentially available awareness of vocational possibilities in life, vocational competence, in short. Movement toward this goal will be facilitated as appropriate by:

1. attempting to augment the person's awareness of his alternatives at all points of decision;
2. encouraging the person to exercise considered judgment whenever he elects to choose;
3. tutoring the person in the heuristics of choice whenever he enters the System for reason of choice;
4. supervising the person in his practice of some choosing, particularly that associated with his presence in the System but extending beyond limits of the machine aspects of the System to the extent that the necessary financial support is available; and
5. requiring assumption of personal responsibility for the outcomes associated with pursuit of elected alternatives.

Principle Paradigms of the System. The heuristics of the System which have been noted above are applicable in relation to any discontinuity which may be conceived in an anticipatory mode and in

which activity is expected to be under direction of thought. These heuristics further presume three paradigms which I discuss here since they will need to give definition both to the manner in which the facts/data are accessible from the computer-based System and to the education of the user as he learns about personal responsibility from analyses of anticipation and adjustment in relation to sequence in discontinuity. The paradigms are:

1. choice;
2. thought in activity; and
3. investment of self in time.

The paradigm of choice will in turn be represented in the heuristics of the System through sub-aspects of:

a. context;

b. proportions of time devoted to contexts;

c. processes in choice; and

d. sequence in choice.

The contexts of choice available in the System will be: 1) educational; 2) Armed Force; 3) occupation; and 4) other.

The paradigm of choice in the proportional-time allocation to context will stress that:

1) responsibility for choice in time allocations can be exercised at numerous times in life; and

2) a person can assume responsibility for some adjustment of time allocations even at the present time (allowing, of course, for variation in available opportunity because of age and sex).

For instance, the System might note for a person that, since he is now age 16, his pattern of time election could well look like this:

Context	Proportion of Time
Armed Force	0
Education	1/2
Work	1/8
Other	3/8

The person might then indicate a choice and find out what the consequent time allocation proved to be. Exploration through numerous alternatives could provide the heuristics for appearance of pattern.

The paradigmatic representation of processes involved in choice must include:

1) investment of time (as above);

2) desired returns;

3) obligations required for receipt of desired returns; and

4) acceptance of delay between investment and return.

Mastery of the processes in choice provides the user with developed capacity for adjusting the proportion of time investment in sequences which can in turn lead to the experience of personal control within life style. The exercise of such control leads to the assumption of responsibility for action in which the person becomes increasingly independent, although also remaining necessarily interdependent. The System will attempt cultivation of this capacity by noting at least three possibilities for personal independence in each of the four contexts in choice. For instance, in the education context, the progress toward independent action (or progression up occupation levels, if you prefer)

offered through the heuristics of the System could be to encourage understanding of self in relation to acceptance of:

1) requirements in educational programs (doing what "they" want);
2) choice in electives and individual study (doing what "they" permit me to do independently); and
3) responsibility for consequences when originating ideas (being creative <u>but</u> permitting "them" to criticize my creativity).

Progress possibilities in self understanding for the other three contexts could be:

1) Armed force: a) enlistment; b) some direction of others; and c) command of others
2) Work: both a) change to another company, b) change within the same company; c) change in activity of present job; and a) occupation, b) job, and c) position
3) Other: a) response to required pattern; b) some action <u>upon</u> pattern; and c) assumption of responsibility for <u>setting</u> pattern.

Progress from one independence level to the next in each of the contexts would enhance understanding of self in relation to the assumption of responsibilities during the incorporation of roles, particularly those roles permitting increased personal independence and responsibility. The principle mode of change in levels would still be in terms of proportional time allocations within the four contexts of choice. However, level would introduce an aspect of <u>sequence</u> into the processes of choice.

Before embarking on discussion of the sub-aspects of the paradigm of choice which the heuristics of the System should represent, I noted that thought in activity and investment of self in time were two other primary paradigms which the heuristics of the System had to portray and use. Actually, discussion of the more general conception of "choice" presumes both thought in activity and investment of self in time. However, both are worthy of further direct consideration because each is a central mechanism in the emergence of personal responsibility for career.

The paradigm of thought in activity must be represented throughout the System at three levels. The most general level of representation of thought in activity will be merely to encourage linkage of activity to thought. Think/do associations will be stressed. A secondary manifestation of this paradigm in the System will be to stress education/work associations. This level therefore becomes specific to career development. However, stress of specific levels of thought in activity in the Information System itself can only be conveyed through linking particular educational and vocational facts. The linkages of particular educational and vocational facts therefore constitute a tertiary but ultimate level of the paradigm which will be in the System.

In order to invest self in time, the person must construe the use of time for personal purposes. This stress unavoidably implies that time is of value and is to be valued. Dudley and Fletcher (1965) provide defense of this stress in terms:

1) of the value of entrepreneurial behavior; and

2) of the serious consequences now evident because of a general absence of personal determination in career development through entrepreneurial behavior.

I have since attempted further explication of the concept of time in relation to their general concept of entrepreneurial behavior (Tiedeman, 1965 b).

Development through the System. The paradigms of the prior section will find expression and use in the System through the heuristic modes which provide computer-based access to facts/data in a manner designed to facilitate their transformation into information. Of course, the transformation is a cognitive and experiential process which is occurring throughout life. A System with the flexibility of presenting facts/data of occupations through the outlined paradigms and heuristics can be of great value over a considerable age range. In fact, the range can probably be from kindergarten through retirement if the counselor becomes skilled in judging levels at which users can profitably enter into interaction with the System. These judgments will be akin to those the counselor makes in starting the individual intelligence testing of a person.

However, heuristics and paradigms are not alone sufficient for definition of the System. The development of cognitive capacities and of vocational choice must also be taken into account. Such an accounting is a difficult matter despite valuable leads from Super et al. (1963). Nevertheless, Warren Gribbons (1965) has provided

preliminary specifications which will probably find expression in the Information System. The summary of Gribbons' specification is as follows:

> Kindergarten to Grade 3. "The major concerns at this level will be to initiate effective problem-solving behavior, to acquaint the pupils with machines and their uses so they will be able to handle the rather sophisticated materials scheduled for the 4 to 6 grade level, and to initiate broadening of the youngsters' knowledge of the world of occupations.
>
> Grades 4 to 6. "At this point in development, our interest is focused on the youngster's basis for choice rather than on the choice itself. Therefore, during this period of exploration, we wish to have the pupil trust his pre-conscious experiences and give full rein to his imagination as a basis for considering alternatives. We want him to develop only a sense of plan (which presumes a choice) and he may start with fantasy or defense but we would like him to realize [through counseling, if necessary even if by computer (see Cogswell and Estavan, 1965)] when he is considering fantasy, defense, or reality. The emphasis during this period should be on exploratory behavior, which should be flexible. However, our major goal during this period will be to help the youngster to know himself -- his interests, values, abilities -- and to use this knowledge in selecting alternatives. It should then be possible for him to make far better progress through the crystallization and other future stages.
>
> Grades 7 to 9. "The emphasis during this period will be on realistic self-appraisal of abilities, interests, and values and the relation of these to present and future educational and occupational decisions. The student will be getting ready to anticipate and carry out his own plans -- most important of these is his choice of curriculum. The youngster who is successful in self assessment at this level will begin to realize that he is capable of analysis, that he can test out his ideas and that he can develop a capacity to see the consequences of his actions--representing a sense of agency. It will be very important during this period that the youngster not consider his self-assessment a 'test' or a school-type assessment.
>
> Grades 10 to 12. "Particular attention must be given to terminal students who will not have the extra flexibility granted those who will go on to higher education. It is hoped that these youngsters will have developed the ability to make and execute

the plans that will qualify them for the vocations they must now specify, but very careful assessment must be continued so the counselors can identify any areas of weakness and bring them to the youngster's awareness. This, of course, is not meant to suggest that college-bound youngsters be neglected, but only that all young people be given the greatest opportunity to achieve their highest potential whether they have the advantage of higher education or not.

The First Job. "At the present time it seems feasible to expand on the outlined procedures for use by individuals at work, college, or home. The stress should first be placed on planning for stabilization, i.e. becoming qualified for a stable job or accepting the inevitability of instability, and later advancing to the stage of consolidation and advancement.

Post Entry Job. "System should be available for anyone wishing to use it, ideally through touch-tone type approach to be used in the home. The unemployed person or person desiring a change could then insert his private information into the System and request a list of available opportunities at any time. Until this is possible, however, the System might be made available through the neighborhood elementary school. Continued counseling assistance should also be available for those desiring it."

(Gribbons, 1965)

Additional specifications are reported in Appendix C.

Information and Action in Relation to College Placement[3]

The Counselor and the Placement Officer as Supervisors of Action in College. The primary purpose of the proposed Information System for Vocational Decisions is to bring a person at each of the discontinuities of vocational development to a condition of readiness and confidence which is sufficient for him to act on his plan. Therefore, in a real sense the officer in charge of access to the Information System must act toward a user as a supervisor (see Tiedeman, 1965 c) of his turning facts/data into information. This primary charge will ordinarily be the responsibility of a counselor. However, there is no reason why other officers cannot work in close collaboration

[3]The material of this section is primarily taken from a part of Tiedeman (1965 a).

with the officers of the System with the intention of supervising the person's transition to work or further education. Such officers might discharge the functions now considered to be those of placement officers. But what are the functions of the placement officer, particularly those employed in colleges? Let us turn to this problem now. It is of course the key question in this Conference since it refers to the relation of theory and practice.

It can be seen from Gribbons' list of materials and modes of presentation (Appendix C) that the specific set of educational and vocational discontinuities of most direct relevance to career development through college study and work are associated with choosing:

1) a curriculum in high school which qualified entrance into the elected college;
2) at least the college from which the student graduates;
3) a major in college; and
4) an entry job or a graduate school.

In addition, the graduate's experience with regard to educational and vocational discontinuities will include the finer and more numerous differentiations and presumed integrations occasioned by the presentation of content, expectation, and responsibility in the course of education and any previous employment.

Placement of the College Graduate. The placement officer ordinarily manages the transition of the graduate to work. The resources of the placement officer include a set of specific positions

which he knows are both open and available to the graduates of his college in a preferential manner. The placement officer performs his job subject to the possibilities that:

1) some graduating seniors may expect placement jobs not listed;
2) not all placed graduates will be satisfied with their placements;
3) not all employers will be satisfied with all graduates the officer helped them secure; and
4) employers who list jobs but fail to recruit satisfactory employees among the graduates may refrain from listing their jobs in the future and some may even make unjustified remarks about the college or the placement officer.

The placement officer ordinarily attempts to share the predicament of his possibilities with the seniors and employers who seek his service. The wish for sharing responsibility for the employment of the graduate gives rise to the conception of readiness for placement now in consideration. Placement officers like students committed to opportunities for which the officer sponsors them. The placement officer's wish to share his predicament with employers gives rise to his interest in the conception of career development. A graduate with "insurance alternatives" or ideas about progress is easier to help if either graduate or company is dissatisfied with the results of a first-job election.

The College Graduate's Readiness for Placement. Ideally, the college graduate who is ready for placement willingly assumes the discontinuity of transition from college to work in awareness of the predicament of the placement office in the terms I have delineated. In relation to his immediate future job his system of thought in action is still in the aspect of anticipation. The basis of his anticipation contains identifiable steps of exploration, crystallization, and choice. The graduate at commencement is about to end the step of clarification with regard to a job he has accepted and will take up tomorrow. Tomorrow, the graduate will pass into the aspect of implementation upon the step of induction. As noted in the introduction, the graduate in this condition can have:

1) a goal;
2) a plan for action;
3) a sense of his own capacity for making the future appear as he wishes it to appear in those ways which are important to him; and
4) a scheme for relating the actual events of the future to his goal and plan in such a way that the information of the future can inform goal and plan and lead to revision or expansion of either or both.

Goal, plan, sense of agency, and feedback mechanism are naturally only in the mind at this time and should not be expected to be permanent although they are frequently compelling bases for action in the immediate future. The graduate's immediate goal is likely to be more permanent

and even more compelling:

1) if the system of justification offered for it relates the experience of implementation of previous educational decisions of vocational significance to the present plan; and
2) if the present plan looks to the future in a way such that tomorrow's job is a part of a larger plan for personal development through career development

This judgment is offered on the supposition that integration occurred in relation to the prior discontinuities of vocational relevance and that at least the step of exploration is in mind in relation to the job on which the present one is predicated.

I find it useful to think of this ideal as I reflect upon the interest of the placement officer in the college. The ideal immediately suggests the following conditions which the placement officer longs to see fulfilled:

1) potential graduates have been contacted sufficiently far in advance so that thought in action with regard to job election has opportunity for occurrence;
2) job election is a part of the continuity of choice of study;
3) job election honors the possible in terms of accepting
   a) the referrals available from the office if satisfactory
   or b) the small resource available to the office for turning up, when necessary, desired but not available, jobs; and
4) job election occurs a) upon investigation of several alterna-

tives and b) upon consideration of longer term, as well as immediate, possibilities.

Career Development through College Study and Work. Although the placement officer justifiably works to attain the conditions of placement readiness as idealized, the college graduate is not likely to accept the predicament of aided placement which I have delineated unless he is also acquiring an emerging comprehension of the process of personally determining his career. I have already indicated that comprehension of the process is a psycho-social matter of long term. The process also requires further cultivation throughout college because it is here that the conscious stirrings of identity can be brought to conceptualization of the personally-determined career. Unfortunately, the college student is usually not liberated with regard to informed personal determination. (The student so frequently encounters those who know and do what is best for him and so infrequently those who offer him responsibility for his own action!) Such a condition is an anomaly for the liberal arts college in particular because the personally-determined career is the essence of liberation through education. And yet the anomaly does turn up rather frequently even in liberal arts graduates.

The college frequently fails to create students competent in securing personally-determined careers because there is an unfortunate withdrawal in colleges from responsibility for providing supervised experience for students. The cultivation of thought in action requires

experience and the analysis of experience as well as lectures about experience. The analysis of experience provides the circumstance in which it is possible to realize the importance of conceptions as well as to experience competence and thereby to gain confidence in the application of concepts. Relevant experience is vitally necessary in order to create a context in which students can relate the conceptions of the alleged disciplines to the requirements of action in social context. Vocational-technical schools which do not mimic colleges enjoy greater opportunity for helping students to confidence in competence through supervised experience (Tiedeman, 1965 c). A vocation practiced in commitment but espoused with tentativeness represents the essence of liberation (Morley and Tiedeman, 1965). Freedom through a <u>proper</u> kind of vocational competence! There is my challenge to colleges which ignore the vocational during education.

I acknowledge that I overstate my indictment of the college. However, as a college permits professors to withdraw from the presentation of conceptions in liv<u>ing</u>, the education of that college may well be considered more liberal but it actually becomes less liberat<u>ing</u>. Percepts without concepts may well be blind but concepts without percepts are indeed empty.

Such circumstances ordinarily disenchant those of us involved professionally in placement in the college. Many professors are so enamored of the restraints which they place upon their lectures that they tend to isolate themselves from the emotions of their students involved in the assimilation of the professor's ideas. And yet it is

largely through the emotions that assimilation is turned from a reproductive to a generative character. In other words, it is primarily through the emotions that the discontinuity of the professor's restraints is generatively assimilated into the student's continuities Although those in placement work may strive to introduce programs of activities into colleges and although they may strive to place the students in a condition of anticipation with regard to immediate and later employment, efforts will not bear abundant fruit in an emotional desert among the faculty.

The personally-determined career is a time-extended organization of thought in action which is accompanied by satisfying and satisfactory experience. Career development through college study and work, as we wish to cultivate that development, requires continual intensification of the impression of self in experience. Student personnel workers seek to cultivate this impression through a program of guidance-in-education (Tiedeman and Field, 1962 and Tiedeman, 1965 d) which is practiced throughout education in all of its levels. The task of placement of the college graduate is easier and more satisfying to the placement officer when students have experienced this cultivation over an extended period, as they could with the availability of an Information System for Vocational Decisions. However, the placement officer need not despair in the absence of a student's prior interaction with an Information System of the kind I describe. There is no more precious gift than the presence of self in intelligence. Seek to bestow this gift upon whomever you can, whenever you can, whatever the student's present condition of readiness!

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Appendix A

UNDERSTANDINGS NEEDED FOR PREVENTION OF CLAIM THAT SYSTEM DETERMINES LIVES

I. Limits on counselor

A. Only places person in a condition of readiness for entry into discontinuity

B. Uses personal history in prior discontinuities to bring about readiness as in A.

C. Recommends about curriculum in order to help in A.

D. But does <u>not</u> progress with the person into the next discontinuity

II. Limits on System

A. System provides <u>only</u> facts/data

B. Facts/data must be as accurate as possible

C. Facts/data must be up-dated as much as possible

D. Projections of future must be entered and used in responsible ways

E. Bases for facts/data and projections must be transmitted as feasible

F. Applications transmitted by the System for the person must be in good taste and responsive to the wishes of both parties involved

G. Personal data must be kept confidential

H. Personal data must be de-personalized when later used in improving the System

I. Only the person is responsible for goals, plans, and clarifications achieved through System no matter what the heuristics may be which the System created for the person

Appendix B

PRELIMINARY SPECIFICATIONS FOR DATA AND ROUTINES

I. Provide material for each of four contexts - education, armed service, occupation, other

II. Provide grades of specificity and reality in each context

A. Perspective (visual with auditory but arranged in panoramic perspective, i.e. show a whole manufacturing process, a whole military operation)

B. Specific

1. Provide for focus upon elements upon demand from person (still visual with auditory but arranged so specific emerges as foreground from background of perspective)

2. Provide for presentation of occupational information (somewhat in the style of the Occupational Outlook Handbook)

3. Provide for simulation

a. Note needed decisions

b. Invite play against machine, e.g.

1. Selling (what's it like to miss a sale nine times in a row)

2. Managing a company (provide difficulties in having authority and responsibility)

c. Have machine always explain bases of its wins - (If you wanted ____, you should have done ____.)

4. Visits for observation with discussion (i.e. get the feel of the people at work)
5. Supervised practice - analysis, criticism, and revision of the practice of being intentional
6. Supervision of revisions of patterning of time use in life styles

III. Routines required for the computer - provision of heuristics for the mastery of purpose in action through repeated analyses of personal history and present desires

A. Heuristics for analysis of the aspect of adjustment (Tiedeman and O'Hara, 1963, pp. 43-45)

1. Encourage person to create an account of his experience with his most recent discontinuity in terms remembered as expected prior to entry upon the discontinuity - memories of prior anticipation
2. Review account in 1 and query to ascertain person's identification of steps of
   a. Induction
   b. Reformation
   c. Integration

   (See Tiedeman and O'Hara, 1963. Program should largely probe for attitude toward the pursuit of intent in the social context met in the experience of the discontinuity)
3. Call up previous record of anticipation of the discontinuity

4. Encourage comparison of 1 and 3 for identification of differences
5. Query with regard to differences to create heuristics for elaboration of the bases of differences
6. Elicit statements of opinion about one's person in terms of abilities, interests, and values given 5.
7. Call up previously stored objective observations in terms of abilities, interests, and values
8. Compare 6 and 7 (e.g. O'Hara's self concept indexes) for identification of possible differences
9. Query with regard to differences offering the person the option of calling for new testing of himself in order to determine if he <u>has</u> changed the previously stored objective conditions
10. Repeat 1-9 for next earlier discontinuity than one now in consideration and hence being entered into record
11. Repeat 10 for other previous discontinuities if desirable and possible
12. With 10 and 11 encourage person to prepare an up-dated statement of his life context
13. The emergence of higher order conceptions which have consistency with prior specifics but offer alternatives not previously available constitutes the structure (Bruner, 1962) of the personal history. This structure constitutes

the self-concept system in relation to the person's exercise of intent. [Refer to list of Super's self-concept system variables (Super, et al., 1963) for suggestion of some of the terms in which this structure can be discussed in assessment, personal or otherwise.]

14. Store new statement of personal structure

B. Heuristics for analysis of the aspect of anticipation (Tiedeman and O'Hara, 1963, pp. 38-43)

1. Heuristics for exploration - learning how one translates think/do (i.e. the widening of one's awareness of his preconscious experience and processes)

a. Primary terms

1) Abilities - what I can do

2) Interests - what I like to do

3) Values - what I will do

4) Future - what others presently think it will be like at specified times ahead

b. Heuristics for future

1) Primary terms will have to be concepts and ideas

2) Heuristics will emphasize the invention of uses for ideas (i.e. the program will need to be one of translation)

3) Uses offer alternatives

4) Alternatives permit some specification of consequences

5) Consequences permit some specification of potential barriers

6) Potential barriers permit estimation of economic and personal cost

7) 1-6 permit anticipation of what is likely to occur and what will be required to make it occur

8) Suggest selection of duties for one's self in relation to 7

9) Suggest translation of possible future duties as in 8 to today's alternatives (we will need to provide the language and translation for linking education, work, and armed service through education and development)

c. Heuristics for linking future and abilities, interest, and values

1) Translate abilities, interests, and values into present alternatives after review of personal history

2) Encourage statements of linkages of think/do

3) Highlight awareness of personal investments of time

4) Attempt widening of areas of personal activity

5) Attempt linkages of opportunities to actions given abilities, interests, and values

[Refer to list of Jordaan's exploration variables (Super, et al., 1963) for suggestions of some of

the terms in which exploration can be discussed in assessment, personal or otherwise]

2. Crystallization (e.g. a step in making pre-conscious become conscious)
   a. Suggest alternatives
   b. Encourage personal imposition of ordination upon alternatives as provided and as personally augmented
   c. Encourage realization of exclusions
   d. Encourage realization of bases for exclusions
3. Readiness for planning (i.e. making intentions efficient)
   a. Start with chosen activities
   b. Test for relevant facts
   c. Supply missing facts
   d. Provide for review of choices (i.e. for return to programs B.1 and/or B.2 and/or B.3)
4. Readiness for clarification
   a. Seek listing of needed next activities
   b. Promote the sequencing of activities
   c. Prompt to evolution of evaluation system (i.e. for listing of contingencies and for means of assessing in order to choose as contingencies become definite)
   d. Encourage linking of assessment in contingencies to potential revisions of goals and/or means of attempting to secure goals

Appendix C

PROCEDURES FOR IMPLEMENTING THE MAKING OF VOCATIONAL DECISIONS

(Adapted from Notes of 8/20/65 & 8/24/65)

Warren D. Gribbons
Regis College

The procedures should reflect the facts that vocational development takes place within physical, educational, and occupational frames. Therefore, the materials should provide for distinctions in at least the following levels of the educational frame (other frames are generally coordinate in development with the educational and may therefore prove unnecessary):

1. Kindergarten through Grade 3
2. Grade 4 through Grade 6
3. Grade 7 through Grade 9
4. Grade 10 through Grade 12
5. Grade 13 and Grade 14
6. Grade 15 and Grade 16
7. Grade 17
8. Grade 18 and beyond

At the present time, specifications are not complete for any level nor inclusive of all levels.

The specification of needed procedures are organized according to the above levels within the following categories:

Part A - Responsibilities of Teachers

I. Cultivation of machine use, problem-solving mode, and knowledge of possibilities for influence of restraints on personal desires

Part B - Responsibilities of Counselors

II. Cultivation of personal responsibility - the emergence of self

III. The influence of the past on the future - aptitudes, accomplishments, interests and values in relation to educational and vocational choices

IV. Choice, clarification, accommodation, and progress in educational frames

V. Exploration, choice, clarification, accommodation, and progress in relation to work frames

Part A - Responsibilities of Teachers

SECTION I. CULTIVATION OF MACHINE USE, PROBLEM-SOLVING MODE, AND KNOWLEDGE OF POSSIBILITIES FOR INFLUENCE OF RESTRAINTS ON PERSONAL DESIRES

Kindergarten - Grade 3

A. Introduce machines and instruct in their use

1. Begin with simple familiar machines--dials, typewriters, etc., and advance to more complex, productive machines

2. Refer to Section V, Kindergarten - Grade 3

B. Initiate rudimentary problem-solving behavior

1. Game approach similar to that used for reading readiness, e.g. large board with picture problem (probably showing person at work)--respond to questions: What? Where? How? Why?

2. Emphasize use of questions:
"Why do I?" "How did I?" How could I?"

3. Toward end of third grade initiate "case method" closely tied to youngster's own needs
e.g. "Peter faced with studying lessons or going out to play," should encourage youngsters to consider many factors before making decisions

Grades 4 - 6

A. Continue instruction in problem solving with special emphasis on school, home, neighborhood

1. Present additional case studies to increase awareness of factors to consider in making decisions; with particular attention to alternatives influenced by different abilities, interests, and values

2. Pre-You: Today and Tomorrow-type book
Know self-abilities, interests, values
Intellectual and emotional involvement with personal-social materials

B. Also refer to Section V, Grades 4 - 6

Grades 7 - 9

A. Continue instruction in problem solving

1. Broaden to state, national problems
e.g. political, conservation, etc.

Grades 10 - 12

A. Curriculum Implications

1. Special emphasis on personal development in e.g. civics or economics courses

a. Changes can be obtained through personal action

b. Changes can be obtained by changing laws--minimum wages, hours per day and per week, etc.
Difficult especially with lower socio-economic groups, but may be possible through involvement in "doing," i.e. personal visits to legislature, etc.

Part B - Responsibilities of Counselors

SECTION II. CULTIVATION OF PERSONAL RESPONSIBILITY - THE EMERGENCE OF SELF

Kindergarten - Grade 3

A. Instruction and supervision in "How to Study"

Grades 4 - 6

A. Cultivate me-they relationship

1. Show how people affect one another
   I affect you.
   You affect me.
   We affect them.
   They affect us.....and all of these relationships affect our decisions.

Grades 7 - 9

A. Awareness of think-act dichotomy --- Continue "Know Self"

1. You: Today and Tomorrow-type book

2. Readiness for Vocational Planning-type instrument for computer (see Cogswell and Estavan, 1965)

3. Self Concept Index for computer use

B. Emotional involvement plus intellectual involvement

1. Counselor must be available to help clarify youngster's understanding of facts/data so he can transform them into information

2. Counselor must be available to assist youngster through traumatic emotional experiences when and if they occur. Machine might inform: "Medical doctors usually hover in the first quartile scholastically." I want to be a doctor but I am in the third quartile. I may even have trouble getting into college, and my father wants me to go to his school.

C. Encourage taking of personal responsibility for choices

1. You: Today and Tomorrow-type book

Part B - Responsibilities of Counselors

SECTION III. THE INFLUENCE OF THE PAST ON THE FUTURE - APTITUDES, ACCOMPLISHMENTS, INTERESTS, AND VALUES IN RELATION TO EDUCATIONAL AND VOCATIONAL CHOICES

Kindergarten - Grade 3

A. Create records for individual use in future feedback

1. Test data

2. Educational and vocational interests and aspirations

Grades 4 - 6

A. Continue testing program and add to private records

1. Use Readiness for Vocational Planning-type procedure with its possibility for instant feedback--adapted for machine use (see Cogswell and Estavan, 1965)

2. Counselor assessment - possibly through counselor's monitoring 20-30 consoles and then informing youngster (through machine system) of factors he is failing to consider in making decisions

Grades 7 - 9

A. Continue testing program and add to private records for feedback

Grades 10 - 12

A. Continue testing program and increase ability to use resources

1. Add to private and public records (U.S. Employment Service Test, etc.)

2. Encourage realistic appraisal of test scores

3. Develop awareness of present-future relationship

4. Provide opportunities for youngster to review all data in his "private bank"

B. Continue to stress realistic appraisal of abilities, interests, and values; and need to take personal responsibility for choices

Part B - Responsibilities of Counselors

SECTION IV. CHOICE, CLARIFICATION, ACCOMMODATION, AND PROGRESS IN EDUCATIONAL FRAMES

Grades 7 - 9

A. Concentrated instruction on curriculum choices--EARLY!

1. Thorough acquaintance with curricula available

a. Relationship of subjects/curriculum to occupations and future education (see Cogswell and Estavan, 1965)

b. Requirements for success in various curricula

2. "Off to School" Off to Work" -- movies, cartoons, booklets

Grades 10 - 12

A. Development of college-orientation

1. Bring to awareness need to specify college preference

2. Information on how to obtain entrance to college

a. Early plans for CEEB's

b. Machine to match private data with bank of data available on colleges; i.e. match capacities and needs of student to requirements and offerings of specific schools

3. Information on great range of different types of schools, e.g. Jr. Colleges, Four year schools, etc., but also specific information on many schools of type finally selected--not limited to either local or distant schools

4. Provide link for self responsibility in study

a. College-type lecture course with particular attention to note taking

b. Responsibility in doing assignments--chapter assignments to be completed on schedule

Grades 13 - 14

A. Development of college-orientation

1. Provide intense period of self exploration with emphasis on linkage of study to future world of work

   a. Relate abilities, interests, values, and hoped for style of life to occupations open to graduates of different courses and programs. Consider the future.

2. Emphasize need to compromise in decision making, i.e. awareness of risks, rewards of involvement in moving toward ideas, which is implicit in the change

3. Involve students with machine system for choice of job following graduation

4. See Section V., Post High School and College, A. Progression in Work-Orientation

Part B - Responsibilities of Counselors

SECTION V. EXPLORATION, CHOICE, CLARIFICATION, ACCOMMODATION, AND PROGRESS IN RELATION TO WORK FRAMES

Kindergarten - Grade 3

A. Bring within child's awareness the kinds of jobs in his neighborhood, and then expand horizon beyond those with whom he comes in direct contact

1. Game approach
   Pupils and/or teacher suggest occupation for game, and all contribute as much information as they have about it. When this source of information is exhausted, teacher (later pupils) will go to machine and plug in for film strip, movie, etc., which will be prepared specifically for a particular age group.

Grades 4 - 6

A. Broaden occupational frame of reference

1. Introduce new occupations to excite imagination and broaden vista using real and fictional heroes. Fantasy may be involved, but there should be some rudimentary link to reality.

   a. Use "live models" through film strips and tape recordings. Model will describe job, how and why he chose it, requirements for job (educational, physical, special aptitudes, etc.), why he likes the job, and any special satisfactions he achieves. In addition, his spare-time activities and home should be described or shown. (also cartoons, pamphlets)

2. Emphasize time, distance, compromise, money, and planning involved in achieving goals

3. Illustrate impact of job preference to "style of life" (see 1-a above)

4. Stress relationship of school subjects to specific occupations with special instruction on available curricula.

B. Provide facts/data on preparation for neighborhood jobs (use familiar to stress preparation, delay to get)

C. Encourage process of crystallization

1. Face-to-face conferences with counselor who could help youngsters become aware of alternatives, consequences of his acts (to the extent that he has failed to gain this information through use of machine or has failed to interpret the data properly)

Grades 7 - 9

A. Occupational facts/data

1. Emphasize future projected manpower needs and occupational patterns

a. e.g. skilled trades will diminish with automation

2. Reports of recent graduates--heroes and drop-outs (on tape, personal appearances)

3. How to get work

Grades 10 - 12

A. Occupational facts/data

1. Move from general to specific plans

a. Bring awareness of need to specify vocational preferences

b. Stress timing, responsibility, and urgency

2. Detailed, specific instruction

a. How to obtain entry job

b. How to apply to college

B. Development of work-orientation

1. Move from general to specific plans

a. Bring awareness of need to specify vocational preference. Stress timing, responsibility, and urgency

b. Information on how to obtain entry job

c. Provide linkage of educational background to work qualifications. "On basis of past history, what am I qualified for?"

d. Input of "Help Wanted" advertisements into system--translate possibilities to immediate opportunities for self

e. Inform about relationship to fellow workers as well as superiors

Post High School and College

A. Progression in work-orientation

1. Securing entry job

a. Opportunity to check private information against public information to alert to:

1) Opportunities open to person with his qualifications

2) Possibilities for advancement, projected salaries, "style of life" in specific occupations

3) Possibility for person to release resumé if he wishes

2. Crystallize transformation from occupation to job, and later to position

a. Person must take responsibility for moving in direction of position (sense of agency)

b. Assemble records of past achievements and realize there is freedom of choice

c. Person must realize crucial link is promotion and he has freedom to determine this for himself

1) Promotion within same company in same type of work

2) Change type of work within same company or with other company, possibly involving change in level

3) Promotion through movement of location

3. Continue Readiness for Vocational Planning-type self-assessment

4. Use technique of simulation to help experience change and new affiliations. E.G., movies showing different levels of responsibilities and the accompanying need for decision making and stress that will occur

5. Make person aware that at least two types of stress will occur

   a. Stress on himself through self-understanding

   b. Stress from society through responsibility

6. Make person aware of contingencies involved in change

   a. Possible sacrifices involved in choice
      risks, sorrows, joys involved in change
      e.g. change in level may bring higher salary, but less leisure time to enjoy material advantages of greater income